

WHAT IS CLAIMED IS:

1 1. A server for responding to a request to map an input name into an address
2 from a requester, the server comprising:
3 (a) a receiver for receiving the request; and
4 (b) a processor for selecting one of the working addresses mapped to the input name, that
5 is best to the requester.

1 2. The server of claim 1 wherein the best working address is one that is
2 closest to the requester.

3 3. The server of claim 2 further comprising a memory for storing a mapping
4 database for mapping a name into an address wherein at least one name is mapped to
5 more than one address.

6 4. The server of claim 3 wherein the memory stores a preference database for
7 assigning a preference number associated with an address and a requester identifier
8 wherein at least one requester identifier is associated with more than one address and one
9 preference number, and wherein the processor selects one of the mapped addresses based
10 on preference numbers associated with the requester identifier in the preference database.

1 5. The server of claim 4 wherein the processor selects the mapped address
2 having the highest preference number.

1 6. The server of claim 5 wherein if the processor has selected the same
2 mapped address for a pre-defined number of times and there is one mapped address that
3 does not have a corresponding preference number in the preference table, the processor
4 selects the mapped address that does not have a corresponding preference number in the
5 preference table.

1 7. The server of claim 4 wherein if the corresponding preference number for
2 one mapped address is not present in the preference table, the processor selects that
3 mapped address.

1 8. The server of claim 4 wherein the processor selects one of the mapped
2 addresses having a corresponding preference number exceeding a threshold.

1 9. The server of claim 4 wherein a preference number is an estimated
2 distance between the address and the requester associated with the preference number.

1 10. The server of claim 4 wherein the processor dynamically assigns a time-
2 to-live (TTL) value to the selected mapped address associated with the requester
3 identifier.

1 11. The server of claim 4 wherein the processor assigns a TTL value to the
2 selected address associated with the requester identifier before the selected mapped
3 address is selected.

1 12. The server of claim 4 wherein the requester identifier is a prefix of an
2 address identifying the requester.

1 13. The server of claim 4 wherein the requester identifier is an address
2 identifying the requester.

1 14. The server of claim 4 wherein the preference number is entered manually.

1 15. The server of claim 1 wherein the best working address is one that has the
2 fewest number of lost packets.

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1 16. The server of claim 1 wherein the best working address is one that has the
2 fewest number of connections.

1 17. The server of claim 1 wherein the best working address is determined
2 according to a function of at least two factors.

1 18. The server of claim 17 wherein the at least two factors are: distance to the
2 requester from each mapped working address, number of lost packets at each mapped
3 working address, number of connections at each mapped working address, and a pre-
4 assigned number for each mapped working address.

1 19. A computer program product having a computer readable medium having
2 computer program logic recorded thereon for mapping an input name into an address
3 upon a request from a requester, the computer program product comprising:

- 4 (a) a receiving program code segment for causing a computer to receive the input name
5 from the request;
- 6 (b) a mapping program code segment for causing the computer to map the input name
7 against a mapping database for mapping a name to an address wherein at least one
8 name is mapped to more than one address, the mapping program code segment also
9 for causing the computer to retrieve from the mapping database all addresses mapped
10 to the input name;
- 11 (c) a selecting program code segment for causing the computer to retrieve a preference
12 number from a preference database associated with each retrieved mapped address
13 and the input name, each entry of the preference database comprising an address, a
14 requester identifier, and a preference number, wherein the requester is identified by
15 the requester identifier and at least one requester identifier is listed in more than one
16 entry, the selecting program code segment also for causing the computer to select one
17 of the retrieved mapped addresses based on the retrieved preference numbers; and
- 18 (d) a returning program code segment for causing the computer to return to the requester
19 a response comprising the selected retrieved mapped address.

1 20. The computer program product of claim 19 wherein the selecting program
2 code segment selects one of the retrieved mapped addresses having the highest retrieved
3 preference number.

1 21. The computer program product of claim 19 further comprising an
2 assigning program code segment for dynamically assigning a time-to-live (TTL) value to
3 each entry in the preference database associated with the requester identifier.

1 22. The computer program product of claim 19 further comprising an
2 assigning program code segment for dynamically assigning a TTL value to the entry in
3 the preference database associated with the selected retrieved mapped address.

1 23. The computer program product of claim 22 wherein the assigning program
2 code segment dynamically assigns a TTL value to an entry in the preference database
3 table as a function of the preference number in that entry.

1 24. The computer program product of claim 22 wherein the assigning program
2 code segment assigns a TTL value to an entry in the preference database table directly
3 related to the preference number of that entry.

1 25. A computer program product of claim 19 wherein a preference number
2 associated with a retrieved mapped address is an estimated distance between the retrieved
3 mapped address and the requester.

1 26. A method for mapping an input name into an address upon request from a
2 requester, the method comprising the steps of:
3 (a) retrieving from a mapping table all addresses mapped to the input name, each entry in
4 the mapping table mapping a name to an address wherein at least one name is mapped
5 to more than one address;

- 6 (b) retrieving from a preference table a preference number associated with each retrieved
7 mapped address and the input name, each entry of the preference table comprising an
8 address, a requester identifier, and a preference number, wherein at least one requester
9 identifier is listed in more than one entry;
- 10 (c) selecting one of the retrieved mapped addresses based on the retrieved preference
11 numbers; and
- 12 (d) returning a response comprising the selected address.

1 27. The method of claim 26 wherein a retrieved mapped address with the
2 highest retrieved preference number is selected.

1 28. The method of claim 26 wherein a preference number associated with a
2 retrieved mapped address is an estimated distance between the retrieved mapped address
3 and the requester.

1 29. The method of claim 26 further comprising the step of assigning a time-to-
2 live (TTL) value to the entry in the preference table associated with each retrieved
3 mapped address and the requester identifier.

1 30. The method of claim 26 further comprising the step of assigning a time-to-
2 live (TTL) value to the entry in the preference table associated with the selected retrieved
3 mapped address and the requester identifier.

1 31. The method of claim 30 wherein the response further comprising the
2 assigned TTL value.

1 32. A system for delivering content from a content provider identified by a
2 name to a client upon request from the client, the request comprising the name identifying
3 the content provider, the system comprising:

4 (a) at least two content delivery servers for delivering the content, each content delivery
5 server identified by a different address;

- 6 (b) a map retriever for mapping the name identifying the content provider to all addresses
7 identifying the at least two content delivery servers, and
8 (c) a selector for selecting one of the mapped addresses that is closest to the requesting
9 client to deliver the content.

1 33. The system of claim 32 wherein the selector further comprises a
2 preference database for storing a preference number associated with the address
3 identifying each of the at least two content delivery servers and the client.

1 34. The system of claim 33 wherein the selector retrieves from the preference
2 database a preference number associated with each mapped address and the client and
3 selecting one of the mapped addresses based on the retrieved preference numbers.

1 35. The system of claim 34 wherein the selector selects one of the mapped
2 addresses, that has the highest retrieved preference number.

1 36. The system of claim 32 wherein a preference number associated with an
2 address identifying a content delivery server and the client is an estimated distance
3 between the content delivery server and the client.

1 37. The system of claim 36 wherein an estimated distance associated with an
2 address identifying a content delivery server and the client is measured during a three-
3 way handshake between the client and the content delivery server.

1 38. The system of claim 32 further comprising at least one content providing
2 server for providing the content to the at least two content delivery servers.

1 39. The system of claim 38 wherein the at least two content delivery servers
2 cache the content from the at least one content providing server.

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- 1 40. The system of claim 32 further comprising means for dynamically
- 2 assigning the selected content delivery server a time-to-live (TTL) value.